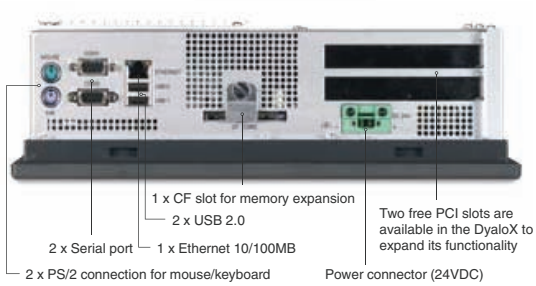
Integrated HMI Controller
NSA

Quick Link K109

Guaranteed continuity

The NSA IPC is designed to provide exceptional performance operating round-the-clock throughout its lifetime. Besides this, Omron offers you a full 3 year warranty, a minimum of 5 years' delivery of the same product and a guarantee of repair of your NSA IPCs for up to 7 years after purchase. So unlike many office-PC type products that have, for instance, very short life cycles, the NSA IPC is a product with guaranteed continuity.

No moving parts to fail


1 x CF slot for memory expansion
2 x USB 2.0
2 x Serial port
1 x Ethernet 10/100MB
2 x PS/2 connection for mouse/keyboard
Two free PCI slots are available in the DyaloX to expand its functionality
Power connector (24VDC)

Fewer moving parts mean fewer potential causes of failure and hence a more reliable product. So instead of a hard disk drive, the new NSA IPC series uses a silicon storage module that offers fast access and exceptional ruggedness. And instead of an electric fan to cool the CPU, heat is radiated away by a heavy heatsink with cooling fins.

No hard disk drive

"Disk on Module" is a very reliable silicon storage type with bad sector management and industrial operating temperatures.

No Fan

A fan is a very critical part of a PC. If the fan fails the complete system eventually breaks down. That's why we chose a fan-less concept.

RAS board for continuous monitoring

Inside the NSA IPC series, a separate RAS board, interfaced by embedded RAS utility software, continually monitors the motherboard. Because the RAS board is a stand-alone board, it can gather data from the motherboard no matter what the Operating System or hardware conditions are. RAS stands for Reliability, Availability, Serviceability.

Specifications

Item		Specifications
OS		Preinstalled Windows XP Embedded
Processor		1.3 GHz Intel Celeron® M Processor
Storage device	**Type**	DiskOnModule (flash memory)
	Capacity	2 Gbyte (4 GByte, Fall 2007)
	Service life (write cycles)	300,000 cycles
Memory	**Main memory**	512 Mbyte DDR-SDRAM (No-ECC)
	Cache memory	512 Kbyte Level 2 cache memory (built into the CPU)
Display panel	**Type**	TFT color LCD
	Size	12.1 or 15 inches
	Resolution	1024 x 768 dots
	Contrast	300 cd/m^2 (typical) (see note 1.)
	Viewing angle	130° left to right, 90° up and down
	Colors displayed	262,144
Backlight	**Type**	2 cold-cathode fluorescent lamps (CCFL) 4 x CCFL for 15"
	Contrast adjustment	Three-level software adjustment. (see note 2.)
	Backlight not lit detection	The software reads the lamp burnout detection signal from the inverter. (see note 3.)
	Service life	50,000 hours min. (see note 4.)

Specifications (Continued)

Item		Specifications
Touch panel	**Type**	Analog resistive type
	Effective input area	12" : 247 mm x 185.5 mm 15" : 305 mm x 229 mm
	Operating service life	10,000,000 operations (with non-stop key stroking using fingers to input) 100,000 characters (with non-stop character entry using a stylus to input)
Interface	**Keyboard**	PS/2 keyboard with 6-pin Mini DIN connector
	Mouse	PS/2 mouse with 6-pin Mini DIN connector
	Serial ports	2 ports confirming to EIA RS-232C for 9-pin D-SUB female connectors Pin No. 6 output: +5 V (250 mA max.) (see note 5.)
	Ethernet	One 10 BASE-T/100 BASE-TX port for an RJ45 connector
	USB ports	2 USB 2.0/1.1 ports for USB-type A connectors
	Memory card	Type I CF Card, 1 slot
Expansion slots		PCI expansion bus, 2 slots
Special RAS board	**External input port**	3-pin connector port for the UPS power interruption signal
	Status LED indicators	4 (RUN/BATLOW/ERR/DIAG)
RAS functions	**Special RAS board functions**	Alive connection monitoring, device restart, timer start, startup and shutdown monitoring, backlight lit time measurement, UPS power interrupt signal output, and logging functions
	Motherboard	RAS functions Standard PC RAS info, post error logging, post error retry, CMOS data recovery
POWER indicator		Yes (green)
Service life		50,000 hours at 40°C (see note 6.)
Battery life	**Main board**	5 years at 25°C (NSA-BAT01)
	RAS board	5 years at 25°C (NSA-BAT02)

Note: 1. This contrast value is strictly a reference value at maximum contrast.

2. The contrast cannot be adjusted significantly.

3. It is not the service life, but rather lamp failure due to the hardware problems such as a broken wire that is detected. Backlight not lit detection means both backlight lamps have burnt out.

4. The service life is a guideline for maximum contrast at room temperature with normal humidity and is provided strictly for reference. It varies significantly with the ambient temperature. The service life will be shorter under extreme (high or low) temperature conditions and falls off sharply particularly under low-temperature conditions.

5. Serial ports 1 and 2 cannot output +5 V at the same time.

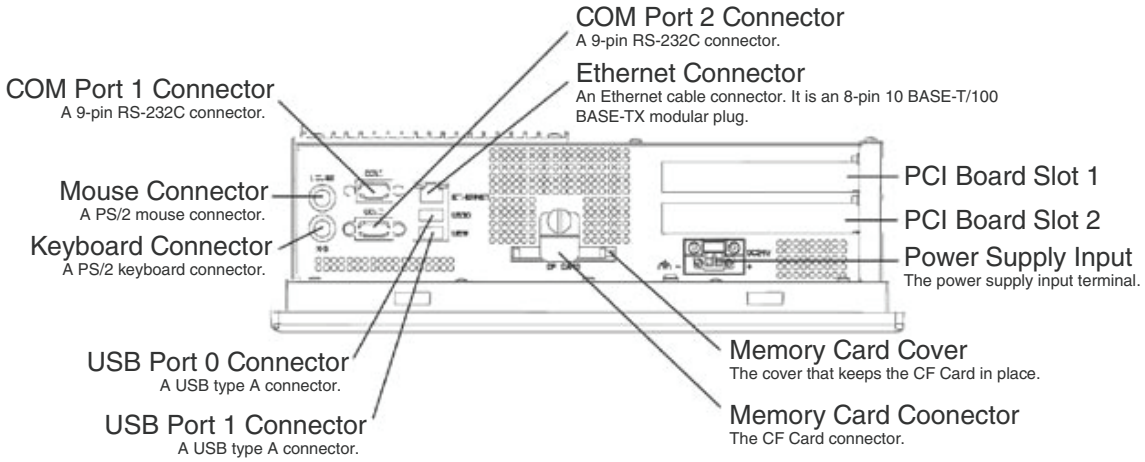
6. The service life is a guideline that is provided strictly for reference. It varies with factors such as the installation location and operating conditions.

General Specifications

Item	Specifications
Rated supply voltage	24 V DC
Allowable supply voltage range	20.0 V DC to 27.6 V DC (24 V DC ±15%)
Power consumption	12" : 80 W max. 15" : 100 W max.
Ambient operating temperature	0° to 50°C (See notes 1 and 2.)
Ambient storage temperature	–10° to 60°C (See notes 1 and 2.)
Ambient operating humidity	10% to 80% with no condensation (See note 2.)
Ambient storage humidity	10% to 85% with no condensation (See note 2.)
Operating atmosphere	Must be free of corrosive gases Must be fairly dust free
Noise resistance	Conforms to IEC6100-4-4, power supply line: 2 kV
Vibration resistance (in operating)	Confirm to JIS C0041, 0.05 mm amplitude at 10 to 55 Hz for 50 min each in the X, Y and Z directions (IEC60068-2 equivalent)
Shock resistance (in operating)	Conforms to JIS C0041, 196 m/s^2 three times each in the X, Y and Z directions (IEC60068-2 equivalent)
Dimensions (excluding protrusions)	12" : 322 mm x 264 mm x 100 mm (W x H x D) 15" : 384 mm x 312 mm x 108 mm (W x H x D)
Weight	12" : 5 kg 15" : 7 kg
Degree of protection	Front panel: IP65 or the equivalent (display side only) (See note 3.)

Notes: For notes see user manual V233-E1-0.

Nomenclature


COM Port 2 Connector
A 9-pin RS-232C connector.
Ethernet Connector
An Ethernet cable connector. It is an 8-pin 10 BASE-T/100 BASE-TX modular plug.
COM Port 1 Connector
A 9-pin RS-232C connector.
PCI Board Slot 1
PCI Board Slot 2
Mouse Connector
A PS/2 mouse connector.
Keyboard Connector
A PS/2 keyboard connector.
Power Supply Input
The power supply input terminal.
USB Port 0 Connector
A USB type A connector.
Memory Card Cover
The cover that keeps the CF Card in place.
USB Port 1 Connector
A USB type A connector.
Memory Card Coonector
The CF Card connector.

Ordering Information

Description	Specifications	Model
NSA Industrial PC 12"	1.3 Ghz Celeron M, 512 MB RAM, 2 GB (4 GB) storage, XPe, no fan, no HDD, black	**NSA12-TX01B-E**
NSA Industrial PC 12"	1.3 Ghz Celeron M, 512 MB RAM, 2 GB (4 GB) storage, XPe, no fan, no HDD, silver	**NSA12-TX01S-E**
NSA Industrial PC 15"	1.3 Ghz Celeron M, 512 MB RAM, 2 GB (4 GB) storage, XPe, no fan, no HDD, black	**NSA15-TX01B-E**
NSA Industrial PC 15"	1.3 Ghz Celeron M, 512 MB RAM, 2 GB (4 GB) storage, XPe, no fan, no HDD, silver (Q4-2006)	**NSA15-TX01S-E**
NSA Industrial PC Main board battery	—	**NSA-BAT01**
NSA Industrial PC RAS board battery	—	**NSA-BAT02**
CS1G-CPU45H PLC PCI board	CS1-CPU45H, DeviceNet Master and CF interface	**CS1PC-PCI01H-DRM**
Interface for CS1 extension backplanes	—	**CS1PC-EIC01**
Controller Link Support Board for PCI Bus	H-PCF cable optical ring	**3G8F7-CLK12-E**
Controller Link Support Board for PCI Bus	GI cable optical ring	**3G8F7-CLK52-E**
Controller Link Support Board for PCI Bus	Twisted-pair cable	**3G8F7-CLK21-E**

Note: 4 GB drives available fall of 2007.

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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